Indirect Fires Training System

Features

- Fills the individual artillery training void between theoretical drills and live firing – no imagining existence of ammunition for loading

- Improves training in the doctrine of coordinating counter-fires, and manoeuvres in live instrumented training

- Delivers consequential training to artillery units – errors in firing drills are able to be played out in instrumented live training

- Allows connected training of the indirect fire SoS, from observer to platform, including C4I and logistics

- Allows synthetic training of the indirect fire SoS outside of traditional military training areas

- Significantly multiplies the value of training missions fired in training

- Removes safety silting; all missions can be fired as if on the battlefield

Cubic's Indirect Fires Training System, a.k.a Blueshell, is a wireless instrumentation solution that can be deployed across a range of artillery platforms including the 105mm light gun used by the British Army and U.S. Army, amongst others. The system simulates all artillery drills to enable enhanced individual training and allows artillery to realistically integrate into instrumented live training environments. Blueshell simulates the full range of weapon effects, while also exercising the complete artillery system of systems (SoS) from observer to platform, including C4I and logistics.

Individual and collective training is achievable as Blueshell fills the training gap between theoretical drills and live firing, as well as enabling artillery units to realistically train as part of live, instrumented force-on-force engagement training.

All the necessary data to generate direct and indirect firing solutions is gathered on-platform, wirelessly, to determine the point of impact, independent of operational computation. This data can be displayed to instructors or integrated into collective training architecture.

Blueshell – The Premier Indirect Fires Training System

System Compatibility

Blueshell was designed for the collective training space and Cubic's SCOPIC synthetic wrap and Area Weapons Effects Simulation system. It generates common simulation protocol messages that are compatible with any Tactical Engagement Simulation System (TESS), providing seamless integration into combat training centres. The system gathers positional data, barrel bearing and elevation, ammunition type, fuze and charge from system components and emulated ammunition. The data is used to cue weapon effects in instrumented live, virtual, and constructive environments.

Major Components

Emulated Firing Box

- Detects correctly closed breach, correct setting of safe/arm switch and detects firing signal
- Communicates on-gun through bluetooth and LTE for wide area communications
- Triggers acoustic feedback of firing and incoming counter-fires
- **Cubic Inertial Measurement Unit (CIMU)**
- Independently measures barrel bearing and elevation, and platform slope
- Provides on-platform trajectory data processing trajectory data processing
- Allows gun detachments to conduct full range of drills with no negative training

Fuze Setter

- Fully integrates with simulated ammunition
- Emulates all drills correctly
- Simulates fuzes, ammunition and charges

Direct Fire Sight

- Provides the Layer (No. 3) with the ability to see the virtual target and carry out direct sighting drills
- Allows effective engagement of instrumented live and virtual targets to train the whole detachment in anti-tank drills

Instructor Interface

- Provides data, video, and audio feed of on-platform activity
- Confirms correct drills are being conducted
- Allows for remote insertion of misfires
- Logs individual and detachment training records

Firing Box

Instructor Interface

Simulated Ammunition

Simulated Charges

Emulated Fuze Setter

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